

FEB 14 2017

Mr. Lawrence C. Rosen
Environmental Operations, Inc.
1530 South Second Street, Suite 200
St. Louis, Missouri 63104-4500

RE: Comments on the Draft Corrective Measures Study Report dated July 31, 2016, for the former
Solutia - J.F. Queeny Site, St. Louis, Missouri
EPA ID # MOD004954111

Dear Mr. Rosen:

The U.S. Environmental Protection Agency and Missouri Department of Natural Resources have completed their review of the subject document and are providing the following comments to be incorporated into a revised CMS Report to be submitted to the agencies within 30 days of the date of this letter.

1. Section 3.7, Remediation Goals, uses the target cancer risks of $1E^{-6}$, $1E^{-5}$, $1E^{-4}$ and non-cancer hazard quotient of 1 to back calculate remediation goals for groundwater. These values are included in Table 3-15. It is unclear which set of values will be used as remediation goals.
2. Section 5 needs to identify and evaluate monitored natural attenuation as an alternative for the FF Building Area, the Acetanilides Production Area, and the Former Bulk Chemical Storage Area. MNA should be identified as a component of the proposed final remedy for each of these areas and should be evaluated against the primary and secondary screening criteria
3. MNA parameters were previously measured as part of the interim measures and injection activities. At that time, it was demonstrated that MNA was occurring. MNA parameters should be included as part of the groundwater monitoring program to verify that MNA processes are still active and continue to reduce groundwater concentrations. A decision matrix should be developed using mass balance and/or statistical evaluations to determine if the groundwater concentrations are decreasing, stable, or increasing. A contingency plan should also be developed and implemented should it be determined the MNA processes are no longer active or statistical evaluation determines that the groundwater concentrations are increasing.
4. It would be beneficial to break out the MNA costs for each area of concern, as this may assist in the potential sale of separate parcels of the site in the future. Table 4-1 should include MNA. There should be a Table 4.3 that screens technologies for the FBCSA.
5. Section 6, Justification and Recommendations, Former FF Building Area states that the cumulative estimated lifetime cancer risk for an industrial worker did not exceed the EPA recommended risk range of $1E^{-6}$ to $1E^{-4}$. According to page 13, Section 3.5.1 and Table 3-10 the ELCR for an industrial worker is $2.1E^{-3}$ which exceeds the recommended risk range of $1E^{-6}$ to $1E^{-4}$. There should also be a Section 6.4 which includes justification and recommendations for the FBCSA.

BT: H:\AWMD\WRAP\2017 Correspondence\Morrison\Comments final on the July CMS.2.9.17.doc

CONCURRENCES		
SYMBOL	WRAP	WRAP
NAME	Morrison	Johnson
INITIALS/DATE	<i>[Signature]</i> 2-10-17	<i>[Signature]</i> 2/13/17

RCRA



559874

6. The human health risk assessment evaluated both cancer and non-cancer risks for inhalation of VOCs in indoor air for an industrial worker and inhalation of VOCs during trenching, and construction activities for a construction worker in the FF Building Area, the FBCSA and the APA. The HHRA results indicate the potential for increased cancer and non-cancer risks due to volatilization to indoor air to an industrial worker and non-cancer risks to a construction worker in the FF Building Area; increased non-cancer risks to an industrial and construction worker in the former APA; and increased cancer and non-cancer risks to an industrial and construction worker in the FBCSA.

The agencies are concerned that the proposed remedy of institutional controls and MNA alone will not be sufficient to prevent unacceptable human exposures due to potential migration of vapors into future buildings that may be constructed on the property. In addition, recent sampling has verified that vapors are present below existing buildings. While vapor mitigation systems and institutional controls can protect building occupants from vapor intrusion, they don't eliminate the source of the vapor intrusion. The EPA *Office of Solid Waste and Emergency Response (OWSER) Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air* (June 2015) states that mitigation of vapor intrusion is generally not a substitute for remediation of subsurface vapor sources. Therefore, the agencies cannot agree with the proposed remedy for the FF Building Area. Additional source removal or treatment at the FF Building Area is necessary to further reduce COC concentrations in fill and silty clay groundwater unit to mitigate potentially unacceptable vapor intrusion into future buildings and the off-site migration of contaminated groundwater.

The CMS should provide specific examples of the types of vapor intrusion prevention that will be installed on future buildings in the FF Building Area, the APA, and the FBCSA including an air sampling protocol to monitor for vapor intrusion in future buildings. Annual verification and monitoring demonstrating that the vapor mitigation systems are effectively preventing vapor intrusion shall be incorporated as part of the remedy. In addition to specification in the CMS, this requirement will be included in the enforceable Environmental Covenant as part of the proposed final remedy.

7. A portion of the proposed remedy incorporates activity and use limitations for the site. The activity and use limitations will be included in the enforceable Environmental Covenant as part of the proposed final remedy. Activity and use limitations will include no residential use, no groundwater use, soil restrictions, construction restrictions and requirements to prevent vapor intrusion. Portions of the property are proposed for redevelopment and may require disturbance of onsite soil. The agencies recommend that a Soil Management Plan be developed as part of the proposed remedy. The Soil Management Plan shall outline procedures for proper management, sampling and disposal of contaminated soil encountered during on-site construction activities. The Soil Management Plan shall also include relevant worker training, safety protocols, and identification of personal protective equipment for construction personnel conducting such work.

If you have any questions concerning this matter, please call me at (913) 551-7755.

Sincerely,

Bruce A. Morrison
Project Manager
Waste Remediation and Permitting Branch
Air and Waste Management Division

cc: Christine Kump-Mitchell, MDNR
Rich Nussbaum, MDNR
Stacy Hastie, SWH Investments
Eric Page, EOI